Lecture Module - Calibration

ME3023 - Measurements in Mechanical Systems

Mechanical Engineering

Tennessee Technological University

Topic 2 - The Calibration Curve

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- What is Calibration?
- Generalized Curve
- Static Sensitivity and Zero Offet
- Example: IR Distance Sensor

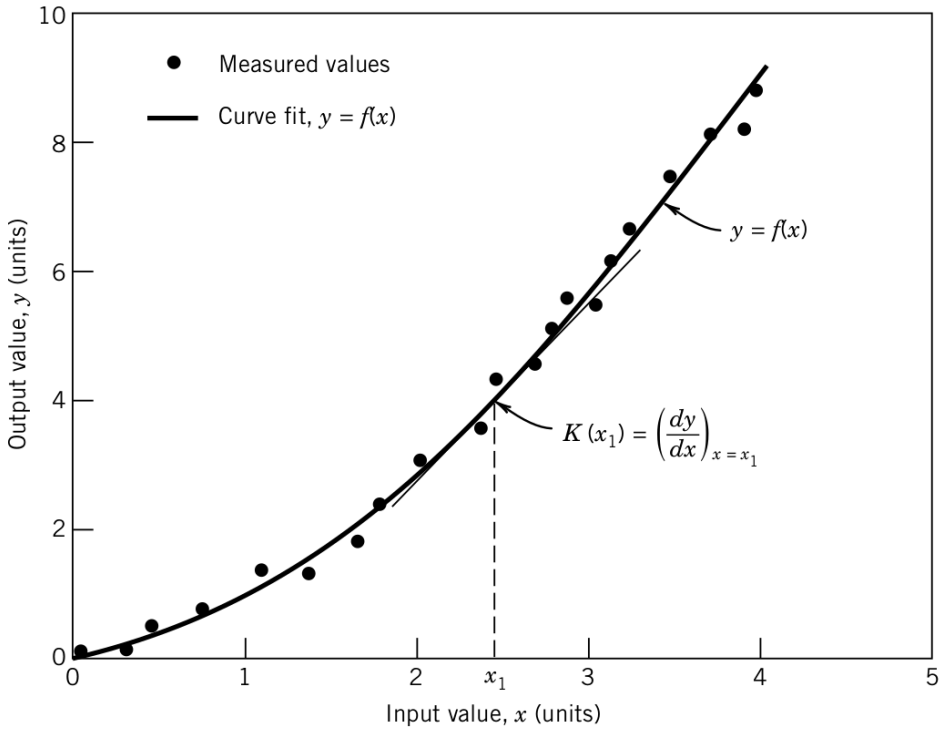
What is Calibration?

A _____applies a known _____to a measurement system for the purpose of observing the system _____. It establishes the relationship between the input and output values. The known value used for the _____is called the _____.

- A range of input values can be used to form a calibration curve.
- The calibration curve describes the input-output relationship of the measurement system.

Text: Theory and Design of Mechanical Measurements, 5th Edition,

Generalized Curve



y: measured signal (output)

x: known standard (input)

Question: How many values are needed for a calibration? Why?

Image: Theory and Design of Mechanical Measurements, 5th Edition,

Static Sensitivity and Zero Offet

You have learned about these by a a different name.

_____- The Slope of the Calibration Curve

_____- Y-Intercept of Calibration Curve

Question: How many parameters or variables are needed to describe the curve?

Example: IR Distance Sensor